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# Business Review



**Federal Aviation Administration (FAA)**  
**Terminal Business Service (ATB)**  
**October 2002**

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Briefing: From FAA intranet, select "Line of Business", "ATS, "ATB", then from "Library" select "Briefing Archive"

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# Overview

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- **Mission and Strategic Objectives**
- **Strategic Initiatives**
  - **Mapping to FAA Goals**
- **Performance Measures**
- **Strategic Integration**
  - **Mapping of Initiatives and Metrics**
  - **Key Risks and Mitigation Strategies**
  - **Business Successes**
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- **Financial Information**
  - **FY04 – 08 Activities**
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# ATB Mission & Strategic Objectives

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- **ATB Mission**

- **The provision of integrated terminal air traffic control capabilities**

- **ATB Strategic Objectives**

- **Reduce risk to service by effectively sustaining existing infrastructure**
- **Provide new terminal air traffic control capabilities**
- **Address critical safety and security needs in the terminal air traffic control environment**

*...where the impact to the economy and general public is greatest*

# Customer-Focused Strategic Initiatives

## Providing new capabilities

1. *Positively impact capacity at top 32 airports*
2. *Make the system more efficient*
3. *Transition from terminal control to arrival/ departure management*

## Reducing risk to service

4. *Make the NAS even more reliable than it is today*
5. *Develop capability packages responsive to needs of mid/low activity airports*
6. *Increase use of mid/ low activity airports*
7. *Develop alternative financing mechanisms responsive to needs of localities*

## Creating taxpayer value

8. *Enhance ability to provide customer value*
9. *Realize economies through integration of technology & activities*

## Addressing critical safety & security issues

10. *Improve surface safety*

→ *Defined strategies support “Customer Focus”*

# Mapping ATB Initiatives & Measures To FAA Goals

				FAA Goal:	Capacity		Efficiency		A/D Mgmt		Risk to Service			Mid/Low Airports		Alt Financing		Operational Excellence				Safety	
					1a	1b	2a	2b	3a	3b	4a	4b	4c	5	6	7a	7b	8a	8b	9a	9b	10a	10b
Passengers & Cargo	Airport Capacity	Arrival Rate		46.6 <sup>1</sup>																			
		Departure Rate																					
		Airport Efficiency Rate (AER)		95.49% <sup>4</sup>																			
	Airport Efficiency	Delays Due to Outages (number)	Weather																				
			Equip.																				
			Term. Volume																				
			Runway																				
			Uncategorized																				
		Delays By Phase Of Flight (minutes)	Gate Delay																				
			Ground Stop																				
			Ground Delay Program																				
			Taxi Out / Taxi In																				
			Airborne																				
			Uncategorized																				
		Average minutes delay for all flights																					
		% Flights On-Time		78.2% <sup>4</sup>																			
		% Flown As Filed																					
	Other	Number of Operations per Year																					
		Passenger Enplanements per Year																					
		Cargo Moved (Tons)																					
		Age Of Facility																					
		Facility Condition Index																					
Safety	Accident Rate	Commercial																					
		General Aviation																					
	Incident Rate	Runway Incursions		50, 0.076% <sup>6</sup>																			
		Operational Errors		538, 3.5 <sup>5</sup>																			
		Near Mid-Air Collision																					
	New Safety Metric (TBD)																						
Cost per flight	Capital Cost per Operation																						
	Operational Cost per Operation																						
	Value of Installed Base																						
	Appropriation-to-Capability Cycle Time																						
	Cost Sharing Percents																						

Primary measurement focus of initiative

ATO Oversight, Public, and Operation measures

Notes:

1 The facility- set arrival rate, i.e., the number Arrivals the airport can handle per hour.

2 AER measures airport efficiency, i.e., the percent on-time Arrival Demand is met.

3 Percent of flights arriving no more than 15 minutes after scheduled arrival time

4 FY03 Preliminary Target

5 Number and Rate of Operational Errors with less than 80% Separation between aircraft per million activities.

6 Number and Rate of Most Critical Incursions (Category A/B) per 100,000 operations.

*ATB Initiatives directly support FAA goals and ATO measures.*

# Mapping of ATB & OEP Initiatives

		Capacity		Efficiency		A/D Mgmt		Risk to Service			Mid/Low Airports		Alt Financing		Operational Excellence				Safety	
		1a	1b	2a	2b	3a	3b	4a	4b	4c	5	6	7a	7b	8a	8b	9a	9b	10a	10b
AD-1	New Runways		P																	
AD-2	Crossing Runway Procedures	P																		
AD-3.1	Departure Routes	P																		
AD-3.2	RNAV	P				S														
AD-3.3	Terminal Airspace	S				P														
AD-4.1	DSP			P																
AD-4.2	TMA			P																
AD-5.1	Expand 3-NM Standards						P													
AD-5.2	NY Metro Consolidation					P														
AD-5.3	TRACON Consolidation					P														
AD-6	Surface Mgt.				P															
AD-7	Surface Moving Map																		P	
AW-1.1	Continue ops. - from VMC to IMC			S	P															
AW-1.2	Continue ops. - CSPR as weather deteriorates			S	P															

→ Terminal initiatives support all facets of FAA goals

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*\*Additional lower level measures not shown*

# ATB Performance Measures

## General Edward Lawrence Logan Intl (BOS)

### Site List

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 .  
 Boston  
 Cleveland, OH  
 Columbus, OH  
 Covington/Cincinnati, KY  
 Dayton, OH  
 Des Moines, IA  
 Detroit (Romulus), MI  
 El Paso, TX  
 Houston  
 Indianapolis, IN  
 Jacksonville, FL  
 Kansas City, MO  
 Las Vegas, NV  
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 .  
 .

**Operations<sup>1</sup>**  
**471,989**  
**Operations Cost**  
**\$31,690,335**

**Passengers<sup>1</sup>**  
**13,613,507**

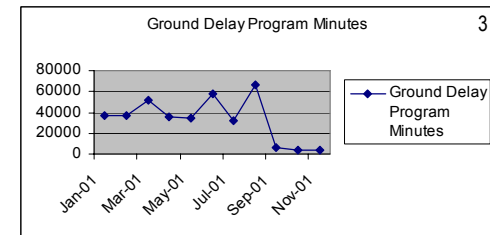
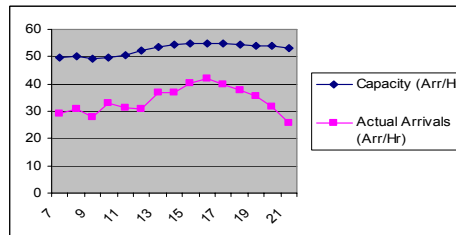
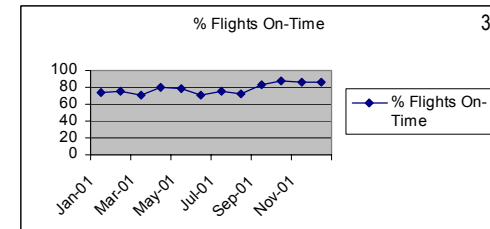
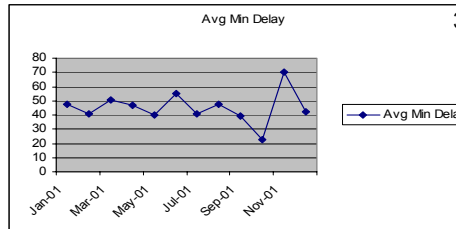
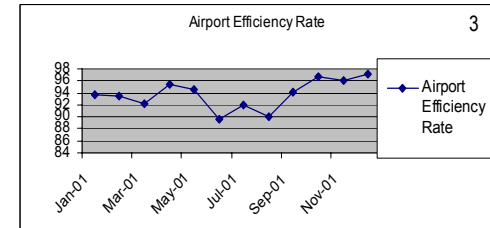
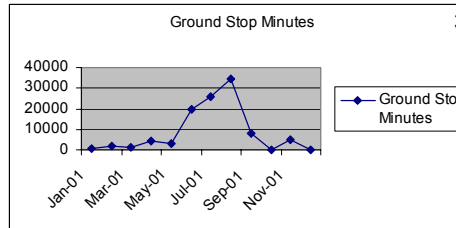
**Air Freight (000lbs)<sup>1</sup>**  
**1,405,482**

**Cost/Flight<sup>2</sup>**  
**\$82.64**

**FY02 Allocations**  
**ATCT \$464,250**  
**TRACON \$13,697,414**

**Value of Installed Base<sup>2</sup>**  
**\$42,417,980**  
**Depreciation**  
**\$16,088,904**

**Net Book Value**  
**\$26,329,076**



1 – APP-410 –FY00

2 – CAS (ATS-31) EOM-12/01divided by ASPM Arrival + Departure data (APO-130)

3 – APO databases: ASPM and OPSNET



# Terminal Strategic Plan – Airport Database

Summary - General Edward Lawrence Logan Intl (BOS)	
<div>Controlling TRACON ID: A90    Region: ANE    Location: Boston, MA</div>	
<b>Fundamental Issues</b> Growth constrained need to make better use of existing runway; Non-convective weather constrained	
<b>Comments</b> ATCT/TRACON Mod. (FY04), STARS Fac Upg. (8/03), ASR-9 OSHA (11/02) Congressional/Mayoral interest/Local Initiatives: Delay Problems: During instrument weather conditions and high wind conditions. This is a capacity issue because of airport configuration Investment issues: Lack of parallel instrument runways, runway length Mature airport with 30 sustainment/evolution plan initiatives. None should be delayed because of Boston Logan's national and international ranking. Need for satellite airports, to expand Air Transportation in New England. New (near parallel) Runway 14-32 New runway is short and expected use is corporate props. Operational Issues: RJ won't fit on short runway Vehicle traffic access, parking and egress Wind direction noise abatement procedures.	
<b>Strategic Initiatives</b>	
01. Positively impact capacity at top 32 airports	<a href="#">Optimize Landing/Departure Rates</a>
03. Transition from terminal control to arrival / departure management	<a href="#">Make better use of terminal airspace by reducing separation standards</a> <a href="#">Enhance terminal efficiency by extending terminal environment to encompass arrival/departure</a>
04. Make the NAS even more reliable than it is today.	<a href="#">Improve operation of existing NAS by mitigating key risks-to-service</a>
08. Enhance ability to provide customer value	<a href="#">Define multi-year strategic evolution for Terminal environment</a>
10. Improve safety	<a href="#">Improve object detection and positive identification on the surface</a>
<b>Programs</b>	<b>Performance</b>

Database: From FAA intranet, select "Line of Business", "ATS", "ATB", then from "Applications" select "Terminal Strategic Plan – Airport Database"

# Terminal Strategic Evolution

## FAA top-level Documents

- CIP, Aviation Capacity Enhancements, TAF, etc.

## Analysis of NAS & Site performance data

- OEP, ATB, AOP, APO, etc.

## Existing programs, activities, plans

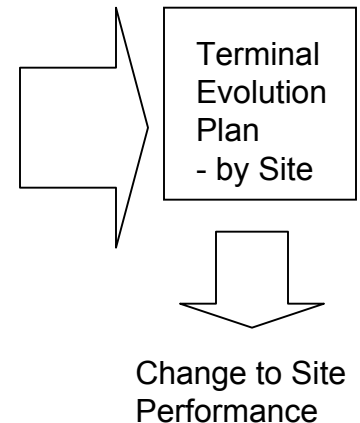
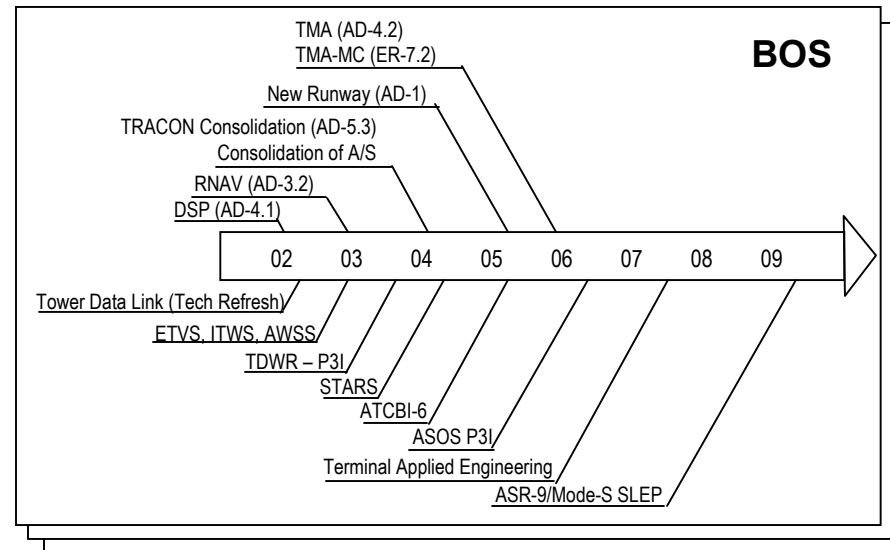
- ATB, AIP, OEP, ANI, region, site, etc.

## Candidate solution alternatives

- sectors, research, region, site, etc.

## Questions:

- Are we doing enough? At the right time?
- Do we need to do more?
- Are we doing too much?
- Will airport meet its projected demand?
- What is risk to existing services?
- Are we aligned with airport plans?



## *Terminal evolution challenge:*

- ✈ Balance terminal operational priorities with available resources
- ✈ Maximize the performance delivered for the resources spent

# Mapping of Projects & Metrics (Top 35 OEP Airports FY03-08)

<i>Pillar</i>	Providing new capabilities			Reducing risk to service		Creating taxpayer value	Addressing critical safety & security issues
<i>Initiative</i>	1. Positively impact capacity at top 32 airports	2. Make the system more efficient	3. Transition from terminal control to arrival/ departure management	4. Make the NAS even more reliable than it is today		8. Enhance ability to provide customer value	10. Improve safety
<i>Measures to be moved</i>	- Avg daily arrival capacity - Landing & departure rate - Percent of flights on time)	- Airport efficiency rate - Avg min of delays all flights - Percent of flights on time	- Airport efficiency rate - Avg min of delays all flights - Percent of flights on time	- Avg min of delays all flights - Delays due to terminal outages/ interruptions - Loss of redundancy - MTTR		- Passenger and cargo - Cost per flight - Appropriation Cycle Time	- Operational errors - Runway incursions
<i>Activities planned to influence measures and initiatives</i>	ATCT/ TRACON Replace  ITWS Mode-S  PRM  SMS  Wake Vortex	ASD-B multilateration  ASDE-3 ASDE-X  ASR-11  ITWS  LLWAS - Exp Netwkg Config  SMS	ITWS  Mode- S  Wake Vortex	ASOS  ASOS P3I  ATCT/ TRACON Modernize/ Replace ITWS  Mode-S Upgrade	STARS: - Development & production - Facility Upgrade - Remote Tower TDLS, TDWR VRRP	Terminal Applied Engineering  SLA  Site Evolution Plan	ASR-9/OSHA  ADS-B multilateration ASDE-3 ASDE-X ATCT Modernize ATCT/TRACON Replace

# Key Risks & Mitigation Strategies

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Key Risks/Issue Areas	Mitigation Actions
Operational Integration	ATB-100 and ATB-30 manage operational integration
Performance Measurement	Performance Measures by Site
Capability Evolution	Site evolution plans
Implementation Planning	Integrated Terminal Work Plan (ITWP) and SLAs
Funding Stability	Two budget line items (Safety and Efficiency)
Equipment Proliferation/Human Factors	ATEAM formed to oversee "CHI and amount of glass"

# Key Successes (FY02)

	Example	Results
Timely service delivery	Philadelphia new TRACON	13 months from ground-breaking to grand opening
Public commitments met	STARS EDC	Every site so far on or ahead of schedule
Fiscally responsible	FY02 budget alignment	\$142M refunded
Performance-based budgets	FY03 budget alignment	Keeps ATB living within its means (performance goals achieved within revenue constraints)
Innovation	Low cost tower display	Six weeks from idea to implementation

# Performance Impacts

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- **FY02 Accomplishments**
- **FY03 Planned Accomplishments**

# Initiative 1 – Improve Capacity

- FY02 impacts:
  - Optimized landing/departure rates by:
    - Commissioning ARTS 3E/PRM interface at 2 sites
    - Commissioning ARTS IIIE and pFAST in MSP TRACON
  - Optimized use of new runway by:
    - Commissioning new St. Louis Gateway TRACON
- Projected impact FY03:
  - Optimize landing/departure rates by:
    - Commissioning replacement of 2 ATCT Facilities
    - Commissioning new PCT Facility - all 4 phases
    - Going operational at 6 ITWS sites
    - Going operational at 3 key sites with MIAWS.
    - Commissioning PRM at 2 sites

✈ *Initiatives support FAA goal of airport arrival rate of 46.6*

# Initiative 2 – Improve Efficiency

- FY02 impacts:

- Improved flow of information by:

- Commissioning first WSP site
- Going operational with TDWR at 2 sites

- Improved accuracy of surveillance data by:

- Replacing ASR-8 with ASR-9/Mode S at Palm Springs, CA

➤ *Initiatives support FAA goal of airport efficiency rate of 95.49% and % flight on time of 78.2%*



# Initiative 2 – Improve Efficiency

- Projected impact FY03:
  - Improve flow of information by:
    - Going operational at 20 WSP locations
  - Improve accuracy of surveillance data by:
    - Going operational at two ASDE-X sites
  - Reduced airspace complexity and congestion by:
    - Facilitating the implementation of the NAR chokepoint initiative at PHL/N90

➤ *Initiatives support FAA goal of airport efficiency rate of 95.49% and % flight on time of 78.2%*

# Initiative 3 – Transition to Arrival/Departure Management

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- FY02 impacts:

- Enhanced terminal efficiency by extending terminal environment:
  - Commissioned Northern California TRACON facility with the cutover of Sacramento TRACON operations
  - Transitioned Macon and Columbus TRACONs into the Atlanta TRACON

➤ *Initiatives support FAA goal of airport efficiency rate of 95.49% and % flight on time of 78.2%*

# Initiative 3 – Transition to Arrival/Departure Management

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- Projected impact FY03:
  - Enhance terminal efficiency by extending terminal environment by:
    - Transitioning Bay/Monterey, Stockton, ZOA/SUU into Northern California TRACON

➤ *Initiatives support FAA goal of airport efficiency rate of 95.49% and % flight on time of 78.2%*

# Initiative 4 – Reducing Risk To Service

- FY02 impacts:

- Reduced delays caused by equipment/service outages by:

- Going operational at 7 STARS EDC sites
- Going operational with STARS (FS-1) at 2 sites
- Going operational with STARS (FS-2+) at 1 site
- Going operational with STARS at 2 DOD sites
- Providing various software/hardware operational improvements to existing automation
- Modernizing 69 ATCT/TRACON facilities
- Replacing 14 FDIO (Flight Data Input/Output) Systems (from ASO only)
- Installing 2 DBRITE Display Systems (from ASO only)
- Modernizing existing hardware and software for ASR-9, Mode-S and AMASS systems
- Installing Radar Product Generators at 38 TDWR sites
- Installing back-up communication systems at 14 TDWR sites
- Reducing potential of RFI at 14 LRR sites
- Improving infrastructure at 16 LRR sites

➤ *Initiatives support FAA goal of % flight on time of 78.2%*

# Initiative 4 – Reducing Risk To Service

- Projected impact FY03:

- Reduce delays caused by equipment/service outages by:
  - Going operational at 9 STARS EDC sites
  - Going operational at 1 integrated ASR-11/STARS FS-2+ site
  - Evolving existing EDC sites to FS-2+
  - Providing various software & hardware operational improvements to exist automation
  - Modernizing 173 ATCT/TRACON facilities
  - Completing modernization of existing ASDE-3 systems
  - Installing software Build 5 in 26 AMASS systems
  - Installing Radar Product Generators at remaining 4 TDWR sites
  - Installing back-up communication systems at 14 TDWR sites
  - Improving infrastructure at 10 LRR sites
  - Commissioning 18 BI-6 systems

➤ *Initiatives support FAA goal of % flight on time of 78.2%*

# Initiative 5 – Capability Packages for Mid/Low Activity Airports

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- FY02 impacts:

- Pursued low cost alternatives that match performance with service level on site-by-site basis:
  - Developed two standalone tower display alternatives
    - Standard Terminal Automation Replacement System Local Integrated Tower Equipment (STARS LITE) by Raytheon
    - Automated Radar Terminal Systems IE (ARTS IE) by Lockheed Martin

➔ *Initiatives support FAA goal of increasing passengers flown and cargo moved*

# Initiative 5 – Capability Packages for Mid/Low Activity Airports

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- Projected impact FY03:
  - Pursuing low cost alternatives that match performance with service level on site-by-site basis by:
    - Going operational with radar display systems at 16 towers

➤ *Initiatives support FAA goal of increasing passengers flown and cargo moved*

# Initiative 8 – Enhance Customer Value

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- FY02 impacts:
    - Defining multi-year evolution for Terminal Environment by:
      - Developing initial integrated terminal evolution plan (FY02-FY08)
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- Projected impact FY03:
  - Defining multi-year evolution for Terminal Environment by:
    - Developing terminal facility master plans for 9 sites
    - Developing site specific evolution plans

→ *Initiatives support ATB goal of creating taxpayer value*



# Initiative 10 – Improve Safety

- FY02 impacts:
  - Improve object detection and positive identification on the surface by:
    - Commissioning AMASS at 15 sites
    - Commissioning 3 replacement ATCT facilities
    - Commissioning 1 replacement ATCT/TRACON facility
- Projected impact FY03:
  - Improve object detection and positive identification on the surface by:
    - Commissioning AMASS at 12 sites
    - Commissioning 4 replacement ATCT facilities
  - Workplace safety
    - Completed OSHA modifications at 25 ASR-9 sites

→ Initiatives support FAA goal of runway incursion rate of 0.076 (category A & B) per 100,000 and operational error rate of 3.5 per million

# Planning & Financial Information

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- **FYo4-o8 Activities**
- **Financial Profile**
- **Financial Performance**

# Planning Information (FY04 – FY08 Activities)

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- **ATB Terminal Strategic Plan – Airport Database contains planning information for FY04 and beyond**
  - **Website is accessible on FAA Intranet**
    - <http://atb:new-1org@www.faa.gov/ats/atb/private/ATBResources/Applications/TSPDB/tspdb.cfm>

# Financial Profile

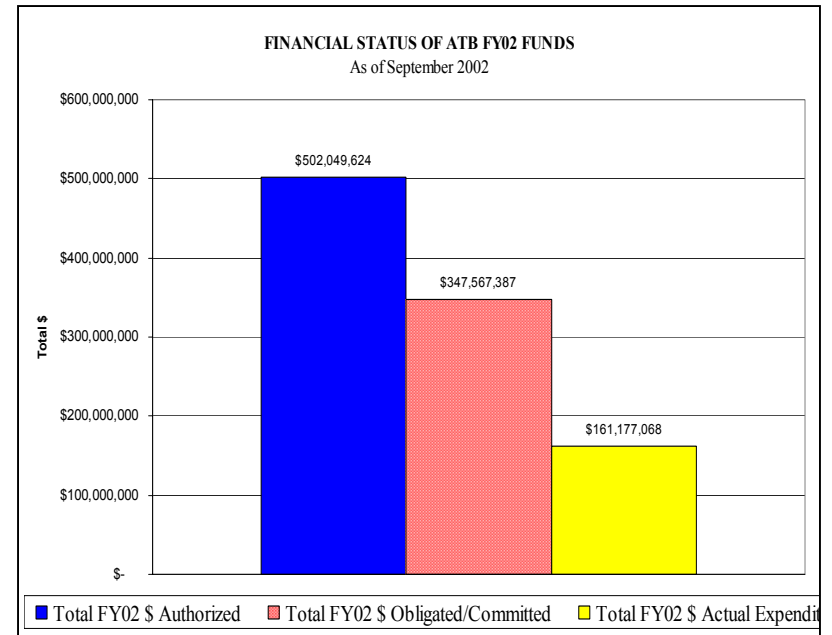
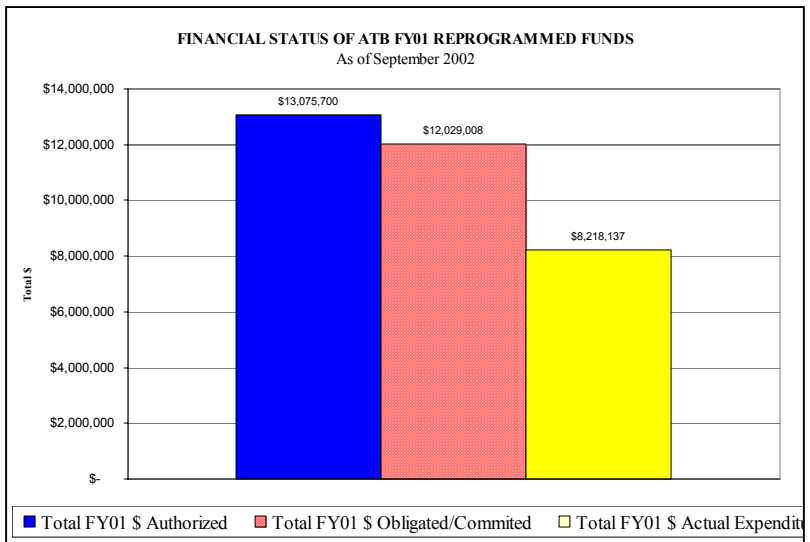
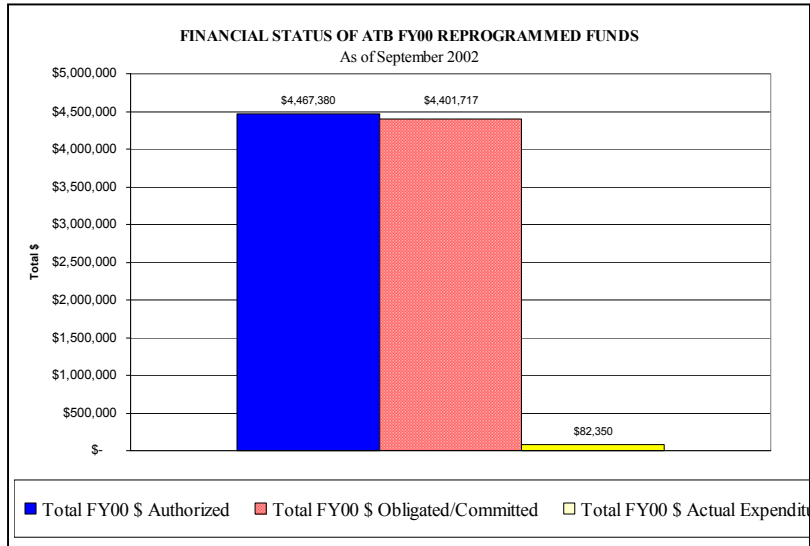
## (Capital Project Account)

CIP #	Project	Initiative	FY02	Senate FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY04-08 Total
	ATB EFFICIENCY TOTAL (\$M)		598.9	565.8	616.3	646.8	676.6	679.9	612.7	356.1	3,232.3
	ATB SAFETY TOTAL (\$M)		120.3	203.9	223.5	127.9	84.4	76.6	26.0	9.9	538.4
	ATB TOTAL (\$M)		719.2	769.7	839.8	774.7	761.0	756.5	638.7	366.0	3,770.7

- In FY02, ATB managed 41 efficiency and 18 safety programs/projects, funded at \$719.2M

# Financial Performance

## (Capital Account for FY00 – 02)



# Conclusion

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- **ATB Management approach is outcome-based at the point of service delivery**
- **ATB performance is measured by assessing the outcomes effect at the point of service delivery**
- **ATB's successes reinforce the directional shift that is occurring**